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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/525,031	02/17/2005	Ichiro Ueno	122779	3484

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EXAMINER

LAVARIAS, ARNEL C

ART UNIT	PAPER NUMBER
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2872

DATE MAILED: 11/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/525,031

Applicant(s)

UENO ET AL.

Examiner

Arnel C. Lavarias

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 February 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-30 is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 February 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 2/17/05.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

2. The originally filed drawings were received on 2/17/05. These drawings are acceptable.

Specification

3. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within *the range of 50 to 150 words*. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. *The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided.* The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. *It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.*

4. The abstract of the disclosure is objected to because of the following informalities:

The Abstract is too long.

Abstract, line 1- 'according to the present invention comprises' should read 'includes'.

Correction is required. See MPEP § 608.01(b).

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5. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Allowable Subject Matter

6. Claims 1-30 are allowed.
7. The following is a statement of reasons for the indication of allowable subject matter:

Claims 1-3, 16-18 are allowable over the cited art of record for at least the reason that the cited art of record fails to teach or reasonably suggest an optical path switching device and method, as generally set forth in Claims 1-3, and 16-18, the device and method including, in combination with the features recited in Claims 1-3, and 16-18, a thermal lens forming element including a light absorption layer film, wherein a thermal lens is reversibly formed according to a distribution of refraction index created by a temperature increase generated in and around an area of the light absorption layer film in which the control light is absorbed, such that, according to whether or not the control light is irradiated, the converged signal light is output either as is in its converged form or after its spread angle is changed; and a mirror including a hole and reflecting means, wherein, according to whether or not the control light is irradiated, the signal light output from the thermal lens forming element is either passed through the hole or reflected by the reflecting means to change the optical path. Claims 4-15, 19-30 are dependent on Claims 2-3 and 17-18, and hence are allowable for at least the same reasons Claims 2-3 and 17-18 are allowable.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 3575668 to Smith.

Smith is being cited to evidence a conventional laser resonator (See for example Figure) which includes converging means (See for example 17 in Figure), a thermal lens (See for example 24 in Figure), and a mirror including a hole and reflecting means (See for example 25, 26, 20, 18 in Figure). However, Smith does not include a light absorption layer film arranged with the thermal lens.

U.S. Patent No. 5568496 to Justus et al.

Justus et al. is being cited to evidence a conventional laser optic protective device (See for example Figure 2) which includes converging means (See for example 17, 19 in Figure 2), a thermal lens (See for example 21 in Figure 2), and a blocking aperture (See for example 27 in Figure 2). However, Justus et al. does not include a light absorption layer film arranged with the thermal lens, and a mirror including the hole/aperture and reflecting means.

U.S. Patent No. 4262198 to Gupta et al.

Gupta et al. is being cited to evidence a broadband radiation detector (See for example Figures 1-2) which includes converging means (See for example 30 in Figure 1), a thermal lens (See for example 12 in Figure 1), a light absorption layer film arranged with the thermal lens (See for example 16 in Figure 1), and a blocking aperture (See for

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example 24 in Figure 1). However, Gupta et al. does not include a mirror including the hole/aperture and reflecting means.

U.S. Patent Application Publication US 2003/0002038A1 to Mawatari.

Mawatari is being cited to evidence a photothermal spectroscopic analyzer (See for example Figures 1-2) which includes converging means (See for example 11, 21 in Figure 1), a thermal lens (See for example 16 in Figure 1), and a blocking aperture (See for example 17 in Figure 1). However, Mawatari does not include a mirror including the hole/aperture and reflecting means, and a light absorption layer film arranged with the thermal lens.

U.S. Patent No. 5125001 to Yagi et al.

Yagi et al. is being cited to evidence a solid state laser device (See for example Figures 1-4) which includes converging means (See for example 9, 11 in Figure 2; 9, 10 in Figure 4), a thermal lens (See for example 1 in Figures 2, 4), and an aperture (See for example 10, 10a in Figures 2, 4) in a mirror. However, Yagi et al. does not include a light absorption layer film arranged with the thermal lens.

9. This application is in condition for allowance except for the following formal matters:
Objections to the specification as set forth above in Sections 3-5 of the instant Office Action.

Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

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A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Arnel C. Lavarias whose telephone number is 571-272-2315. The examiner can normally be reached on M-F 9:30 AM - 6 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on 571-272-2312. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Arnel C. Lavarias
Primary Examiner
Group Art Unit 2872
11/3/06


ARNEL LAVARIAS
PRIMARY PATENT EXAMINER